

**STATEMENT OF WORK
WATER INTRUSION PROJECT
DAYTONA INTERNATIONAL AIRPORT ATCT
1580 Aviation Center Pkwy.
Daytona Beach, FL, 32114**

1.0 DESCRIPTION

1.1 SCOPE: This document covers the requirements of the Federal Aviation Administration (FAA) for site remediation at Daytona Beach Int'l Airport, Air Traffic Control Tower (DAB ATCT), in order to reduce water intrusion into the facility. Reduction will be accomplished by roofing, waterproofing and refurbishing water damaged areas of the facility.

1.2 LOCATION: The DAB ATCT is located on the Daytona Int'l Airport, in Daytona Beach, Florida. All work at this site must be coordinated through the Operation/Infrastructure Engineering by contacting Allah Christmas, Project Engineer, at 404-389-8617.

2.0 REQUIREMENTS

2.1 GENERAL: The contractor shall adhere to any restrictions placed on the conduct of work or the use of equipment, tools or vehicles identified by the Contracting Officer's representative or his appointed resident engineer. The DAB ATCT located at 1580 Aviation Center Pkwy. Daytona Beach, FL, 32114, and contains sensitive electronic equipment and must be protected from possible construction damage. Also the functions of facility are critical to the safety of the flying public and scheduling around heavy traffic periods shall be necessary.

2.2 PRECONSTRUCTION CONFERENCE: The Contractor shall attend a preconstruction conference at the time and location specified by the Contracting Officer (CO). The work schedule, along with local procedures related to ingress-egress, and security will be discussed. Compliance with these procedures while on site is mandatory.

2-3 CONTRACTING OFFICER: The term "CO" as used herein refers to the Contracting Officer, unless he has delegated his authority to someone else. The Contracting Officer may delegate, in writing, certain aspects of his authority to the Resident Engineer/Contracting Officers Technical Representative.

2-4 FAA RESIDENT ENGINEER (RE)/CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR): The RE/COTR shall receive any and all questions that may arise as to the interpretation of the specifications. He will be responsible for the quality and acceptability of materials furnished, work performed, and as to the manner of performance and rate of progress of work, and the rights of the contractor and their subcontractors. The RE/COTR shall be authorized to inspect all work done and all material furnished. Such

inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used.

2-5 WORKING HOURS: All work hours, shifts and overtime work shall be coordinated with the FAA RE/COTR. At the pre-construction meeting, the specific work schedule will be discussed since it may require working nights and weekends to avoid disruptions to Air Traffic Control. In addition, the contractor will notify the FAA RE/COTR a minimum of 24 hours in advance of any changes in work hours, shift changes or anticipated overtime work.

2-6 PERMITS: The contractor is responsible for obtaining those permits that are necessary to comply with all jurisdictional requirements.

2-7 CODE COMPLIANCE: The Contractor shall comply with local and other codes and standards; whichever requires the higher quality of material and workmanship. Where the requirements of the Specifications exceed those of the local or other codes, the Contractor shall comply with the requirements of the Specifications.

2-8 PROTECTION OF FAA FACILITIES: The contractor shall take the utmost precautions to plan, organize, and carry out their work to avoid disturbance or disruption of this facility. The subcontractor shall bear all cost to repair or replace damaged cables, ducts, or facilities and to restore service when such damages have occurred due to his/ her negligence or accident. The FAA Contractor Administrator reserves the right to deduct such cost from any moneys due or which may become due the contractor or his/ her surety.

2-9 SECURITY REQUIREMENTS: It is the contractor's responsibility to provide the FAA RE/COTR with a list of the contractor's personnel who will require access to the site. The list shall be kept current and updated as required during construction.

2-10 MATERIALS: It is the contractor's responsibility to verify all material sizes, quantities, and composition needed for this project. Government supplied dimensions are approximations. **Contractors intending to bid on this project are required to attend the CO scheduled pre-bid site visit.**

2-10.1 Asbestos Containing Materials: The general construction contractor shall not use any asbestos containing material (ACM) at any time during the construction at the FAA facility. The general construction contractor shall verify that all material, including those supplied by third parties, are asbestos free materials. The Contractor shall provide to the Contracting Officer (CO) a signed statement stating that to the best of his/her knowledge, no asbestos-containing building materials were used during the roof installation at this facility.

2-11 TEMPORARY FACILITIES: The Contractor shall furnish and maintain all equipment, such as temporary hoists, chutes, derricks, scaffolds, stairs, ramps, runways, ladders, and similar items required for the proper execution of the work. All such apparatus, equipment, and construction shall conform to all safety "requirements" under this contract. All temporary work and facilities shall be removed upon completion of construction or

sooner, if so directed by the Contracting Officer. The cost of all temporary light, water, power, and heat described herein shall be born by the Contractor.

2-11.1 Scaffolding on the outside of the building shall be constructed in accordance with OSHA (Occupational Safety and Health) Standards. Scaffolding shall not be built into any finish facing material. All rigging and scaffolding shall comply with state and local codes. Contractor shall provide the Contracting Officer with copies of rigging and hoisting licenses and equipment inspection tags. Rigging shall be equipped with safety lines and ropes shall have proper amount of fittings and safety features.

2-11.2 No materials, rubbish, or debris will be permitted to drop free, but shall be removed by the use of methods approved by the Contracting Officer. Hoists and chutes shall be erected as to prevent damage, staining, or marring of any permanent work.

2-12 PARKING AND STORAGE: The Contractor shall be responsible for making all necessary arrangements for temporary parking and storage. The Contractor may make arrangements, in writing, for parking and storage from other local property owners.

2-13 EQUIPMENT AND MATERIALS: The Contractor shall provide all facilities, equipment, materials and services that are necessary to meet the requirements specified herein. Contractor furnished equipment and material shall consist of two types, those items whose ownership remains with the Contractor and are removed from the site prior to acceptance, and those items which remain on-site and become Government property upon completion of the Contractor's on-site work.

2-14 CLEAN UP AND RESTORATION: Site cleanup and restoration shall include the following:

1. Removal of all contractor furnished material, tools and equipment that will not become Government property upon acceptance of site work.
2. Removal from the site and disposal of all trash, litter, packing and other similar material. Other material shall also be removed and disposed of when so directed by the FAA.
3. Repairing of any damage caused to any building or equipment including interior and exterior surfaces resulting from any Contractor performed activities.
4. Restoration of roadways, parking areas, crushed rock surfaces, or other portions of the site inadvertently damaged by the Contractor so as to be returned to the same condition as existed before beginning work at the site.
5. Upon completion of the site cleanup and restoration, the Contractor shall obtain a written release from the FAA COTR/RE attesting that the site has been restored to a satisfactory condition.

2-15 COMPLETION: Before demobilization from the site, the FAA RE/COTR and contractor shall review all work. All defects noted as unacceptable with these specifications shall be itemized in a punch list. These items must be corrected immediately by the contractor to the satisfaction of the FAA before demobilization from the site.

3.0 SITE WORK

3-1 GENERAL: The contractor shall adhere to any restrictions placed on the conduct of work or the use of equipment, tools or vehicles identified by the Contracting Officer's representative or his appointed resident engineer. The DAB ATCT contains sensitive electronic equipment and must be protected from possible construction damage.

3-2 SCOPE OF WORK: The contractor shall perform the following work as part of this project. **For all work follow manufacturer recommendation for installation of the systems and materials.**

3-2.1 Facility Exterior:

- **Repair base building roof where blistering has occurred, approximately 35+ blisters to repaired.** Contractor shall use method below or follow industry standard for repairing membrane roof surfaces. Blisters are to be marked and determined with COTR and Contractor at time start of work.
 - 1. Remove the membrane from the blistered area down to the existing substrate. Inspect the membrane for possible moisture infiltration.
 - 2. If water infiltration is suspected, open the membrane and inspect the insulation and deck for damage. Remove wet or damaged insulation and repair or replace the deck as required. Properly attach new, dry insulation consistent with the thickness of the existing insulation and compatible with the other roof system components.
 - 3. To promote thorough adhesion of a patch, it is essential to begin by preparing the surface. Remove debris, contaminants, surfacing, ballast or loose granules from the surface of the membrane or flashing to be repaired. The area to be prepared should extend beyond the perimeter of the patch to provide an ample clean work area on which to install the patch.
 - 4. Clean the surface of the membrane. If the membrane surface has been flood-coated and aggregate-embedded, carefully spud the aggregate free from the surface and sweep clean. The exposed asphalt flood coat may need to be heated with a torch in order to smooth out irregularities, then allowed to cool.
 - 5. Prime the surface of the membrane with asphalt primer and allow to dry. Primer contains solvents and is used to enhance adhesion; however, overuse of primer can harm the membrane.
 - 6. Cut a patch of like material 8 inches larger in all dimensions than the defect to be repaired. Round the corners of the patch to a minimum radius of 3 inches.
 - 7. Install the patch in hot asphalt, cold adhesive or by heat welding (in accordance with the manufacturer's recommendation) over the repair area, extending 8 inches in all directions from any part of the defect. When using hot asphalt as the method of application, use Type IV asphalt and take care to maintain the asphalt at a minimum of 400 degrees F at the point of application. When torching, work gradually, applying heat only sufficient to

achieve adhesion without damaging the membrane reinforcement or scorching surrounding membrane.

- 8. Apply moderate pressure to the patch to ensure adhesion to the existing membrane.
- **Place new liquid resin roof system on ATCT Cab existing coal tar roof. Cab roof height approximately 85'.** The roof surface is approximately 350 sq. ft. Follow manufacturers recommended install using system components listed below:
 - Without demolishing the existing coal tar roof, insulation, parapet cap, etc.
 - Install Siplast Parapro, or approved equivalent type roofing system:
 - Mechanically fasten 4'x8'x2" rigid polyisocyanurate ISO roof insulation over the prepared gravel surfaced Coal Tar Pitch roofing system.
 - Fully adhere ½ Densdeck PRIME, or approved equivalent, roof cover board in Parastick insulation adhesive.
 - Torch apply a P 20 TG base sheet, or approved equivalent, over the Densdeck cover board.
 - Apply the Siplast Parapro, or approved equivalent, liquid resin system over the P 20 TG roof membrane.
 - Provide a 15 year roofing warranty.
 - Install a layer of Siplast Parapro, or approved equivalent over the "penthouse" roof. Roof is approximately 225 sq ft.
 - No insulation, coverboard required.
 - Treat corroded metal with rust inhibitor prior to roofing system application.
 - Replace weather seal on door.
 - Parapet flashing shall be in accordance with NRCA typical.
- **Catwalk.**
 - Insert drain strainer in floor drains, approximately 6 x 2" openings. Field verify size needed for inset strainer.
 - Replace weather stripping around the door.
 - Prime and paint to match existing.
 - Install new door hardware, use the existing core with assistant from the COTR to get the necessary core key.
 - Install SCHLAG model ND10S, ANSI A156.2 Passage Latch.
 - Replace door hinges conforming to ANSI A156.1
- **Intermediate Floors of shaft, work applies to each vestibule.** Painting and sealing of floor and walls:
 - Floor joint adjacent to the louver will need to be replaced
 - Remove existing sealant to a depth of 1" and clean away any loose concrete and dust.

- Install ½” backer rod into the crevice.
- Caulk opening using polyurethane, non-sag, modified rubber sealant, conforming to Federal Spec. TT-S-230.
- Walls adjacent to the louvers need to be stripped and painted.

General – This is an unmanned facility, but frequent equipment inspections may occur during this project, the contractor must coordinate with the FAA and schedule all work around the requirements of the facility technical staff.

EXACT MEASUREMENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR. A PRE-BID SITE VISIT IS REQUIRED PRIOR TO SUBMISSION TO VERIFY ALL FIELD DIMENSIONS AND QUANTITIES.

ATTACHED DRAWINGS ARE FOR UNDERSTANDING OF THE SITE ONLY. SCALE, NOTES AND LABELS SHOULD NOT BE EXPECTED TO BE ASSOCIATED WITH THIS PARTICULAR FACILITY.



PHOTOGRAPH OF DAYTONA BEACH ATCT.



CAB ROOF SURFACE PHOTOGRAPH



BASE BUILDING ROOF PHOTOGRAPH.



CATWALK LEVEL.



INTERMEDIATE LEVELS REQUIRING CAULKING.



SAMPLE OF AREA REQUIRING PAINTING, TYPICAL EACH LANDING.

**SECTION 01310
COORDINATION**

PART 1 GENERAL

1.1 Section Includes

- A. This section specifies requirements for requests for information as well as special and regularly scheduled progress meetings.

1.2 Related Sections

- A. General Conditions, Article 3, Performance; Section 01110, Summary; Section 01330, Submittals; and Section 01320, Construction Schedules and Reports.

1.3 Request for Information (RFI) Procedures

- A. Use Contractor's RFI Form. Contractor will provide sample forms at the Pre-Construction Meeting. Accurately complete the form for any RFI and submit two copies of the RFI, two copies to the WRPE, and one copy to the SA.
- B. RFIs identifying a technical question relating to the design or construction of the project shall be submitted to the RE for disposition by the WRPE. Copies of the RFI are to be provided to the WRPE and SA in accordance with subparagraph 1.3 A. Attach drawings, sketches, and other clarifying documents along with recommended resolution if known. WRPE will respond and transmit Contractor's response to the RFI to the Subcontractor with copies to the RE and SA.
- C. If Subcontractor determines that Contractor's response to the RFI may impose a cost or a schedule impact on the Work, Subcontractor shall inform the WRPE in writing with copies to the RE and SA within (3) working days from receipt. Subcontractor is not to proceed with any Work that incurs additional cost or time on the basis of an RFI. If no cost or schedule impact notification is received from Subcontractor within specified time, Subcontractor will be deemed to have accepted Contractor's response and responsibility for Work described therein.
- D. Subcontractor shall be responsible for maintaining its own RFI log. The RFI number shall be prefixed by Contractor assigned 3 digits followed by a dash followed by a sequential number starting at 001.

1.4 Weekly Progress Meetings

- A. Meetings with Subcontractor shall be held weekly with date, time and location to be specified by RE. The purpose of these meetings will be to conduct a joint review, review the quality of the on-going Work, and agree on project progress and subsequent submittals of updated and actual progress schedules.

1.5 Pre-installation/Pre-work Meetings

- A. When required in individual specification sections, convene a pre-installation meeting at Worksite before starting work requiring a written work plan. The purpose of the meeting will be to review the Subcontractor's work plan, determine acceptability of the Subcontractor's work plan, and provide authorization to proceed with the Work if the work plan is acceptable. Require attendance of parties directly affecting, or affected by, work of the specific section and RE. Notify the RE and WRPE a minimum of two (2) days before the meeting.

PART 2 PRODUCTS [NOT USED]

PART 3 EXECUTION [NOT USED]

END OF SECTION

SECTION 01330

SUBMITTALS

PART 1 GENERAL

1.1 Section Includes

- A. This section specifies requirements for providing submittals required under the Subcontract.

1.2 Related Sections

- A. General Conditions, Article 7, Quality Assurance; Section 01290, Payment Procedures; Section 01320, Construction Schedules and Reports; Section 01450, Quality Control.

1.3 Submittal Schedule

- A. The Subcontractor is solely responsible for creating a Submittal Schedule identifying whether the submittals are samples, cut sheets, certified test results, and adding additional submittals as required by specifications, drawings or as recommended by a manufacturer. As applicable, the submittal schedule shall state the action required for testing and inspection with the name of the persons authorized to review the submittal. The Subcontractor shall submit three copies of the Submittal Schedule to the WRPE for approval. The Subcontractor shall submit three (3) copies of the Submittal Schedule for approval within 10 calendar days of Subcontract Award. At a minimum, the following submittal items must be provided to the Contractor for review and approval prior to installation:

1. Construction Progress Schedule.
2. Schedule of Values.
3. SSSP.
4. QCP.
5. Master Submittal List.
6. Schedule of Material Allowance.
7. Substitutions and all requested changes.
8. Miscellaneous roofing materials.
9. Clad Solvent –based epoxy paint.
10. Electrical panels and switches.

11. Material safety data sheets.
12. Lightning protection materials.
13. Pre-Installation and Work Plans.
14. Qualifications and Certifications of independent inspections and testing firms.

1.4 Shop Drawings

A. Shop Drawings shall be presented in a clear and thorough manner showing all details, construction sequence, dimensions, materials and work performed by other trades required to complete the construction related to the shop drawing submittal. Shop Drawings shall contain the following information:

1. Date.
2. Number of the drawing and revision.
3. Name of project or facility.
4. Name of Subcontractor and applicable lower tier subcontractor.
5. Clear identity of contents and location of work.
6. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
7. Subcontractor's approval certifying it checked and coordinated the work of other trades.

1.5 Warranties and Guarantees

A. Subcontractor shall provide warranties/guarantees executed by the respective manufacturers, suppliers, and lower tier subcontractors for all installations as required in the Subcontract or as is customarily provided with the particular piece of equipment or system. All warranties are to be executed, in writing, for the benefit of the FAA. Subcontractor shall enforce all warranties for the benefit of the FAA if so directed by the FAA or Contractor. In the event the Subcontractor's warranty has expired, the FAA may bring suit at its expense to enforce a subcontractor's, manufacturer's, or supplier's warranty. Subcontractor shall provide complete information for each item as follows:

1. Product or work item.
2. Firm, with name of principal, address and telephone.
3. Scope.
4. Date of beginning of warranty.
5. Duration of warranty.

6. Proper procedure to evoke the warranty in case of failure.
7. Instances that might affect the validity of warranty.
8. Subcontractor name or responsible principal, address and telephone number.
9. Extended warranties normally provided by manufacturers that are beyond the warranty of construction shall be specifically noted.

B. Equipment Warranty Tags. The Subcontractor shall furnish and install an equipment warranty tag on all Subcontractor furnished and installed equipment in accordance with the following:

1. Lettering shall be Arial bold, upper case, and easily readable.
2. Tag shall be of a durable type material and of a type that can be written on.
3. The tag shall state the following:
 - a. The title "Equipment Warranty".
 - b. Subcontractor's name and Subcontract Number.
 - c. Month-day-year (mm-dd-yy) the warranty expires.
 - d. Point of contact, including name and telephone number.
 - e. Manufacturer.

PART 2 PRODUCTS [Not Used]

PART 3 EXECUTION

3.1 Submittal Submission Requirements

A. Four (4) complete sets, one (1) original and three (3) copies, of all shop drawings and/or submittal data shall be submitted for review and acceptance. One (1) set will be marked and returned to the Subcontractor. The Subcontractor shall furnish two reproducible sets of shop drawings as finally approved. All submittals shall be accompanied by dated transmittal letters identifying the contents of the submittals. Transmittal letters shall consist of one original and one copy. Facsimile copies will not be accepted.

- B. The Subcontractor shall ensure that all submittals are made with adequate time for review and acceptance, including re-submittals, so as not to delay the job. The Contractor will coordinate

submittal review and return initial submittals within 10 calendar days and re-submittals within three (3) business days. Work shall not commence prior to acceptance of required submittals by Contractor.

- C. Submittals shall be checked and approved by the Subcontractor prior to delivery to the Contractor. The Subcontractor is cautioned that the time period stipulated in this section does not include any allowance for re-submittal in cases where the WRPE determines that the Subcontractor's approval of the submittal is not adequately justified. Any delay caused by inadequacies in the Subcontractor's submittal shall not entitle the Subcontractor to an extension of time or additional compensation. Lack of completeness or inadequate description will be justification for disapproval.

3.2 Submittal Evaluation

A. The Contractor will evaluate all submittals requiring Contractor responsive action. The Subcontractor remains responsible for complying with Subcontract requirements, referenced standards, and regulations. The Contractor's evaluation will not relieve the Subcontractor of the responsibility for any error that may exist. Unsolicited submittals not required by the Contract Documents will be returned with the notation that the submittal is not required by the Subcontract and that the Contractor has not reviewed and has no comment on the submittal. The Contractor's evaluation will result in only one of four responses as follows:

1. Approved: Work covered by the submittal may proceed provided Subcontractor complies with requirements of the Contract Documents.
2. Approved as Noted: Work covered by the submittal may proceed contingent upon Subcontractor acceptance of the corrections and/or notations and provided Subcontractor complies with the requirements of the Contract Documents.
3. Revise and Resubmit: Work covered by the submittal may not proceed until the submittal is revised in accordance with the corrections and/or notations and resubmitted.
4. Rejected: The submittal does not conform to the intent and requirements of the Contract Documents and the Subcontractor must resubmit.

END OF SECTION

SECTION 01720

WORK PLACE SAFETY AND HEALTH

PART 1 GENERAL

1.1 Section Includes

A. This section identifies Subcontractor requirements for work place safety and health as generally required by local, state, and Federal regulations.

1.2 Related Sections

A. General Conditions, Article 2, Subcontractor Responsibilities; Supplementary Conditions sections 00840, Safety Requirements; Section 01310, Coordination; Section 01330, Submittals; Section 01730, OSHA Safety Requirements.

1.3 Subcontractor Responsibility

A. It shall be the responsibility of the Subcontractor to comply with safety, health, and emergency response provisions of this Subcontract. The provisions of this section represent minimum requirements and shall not supersede additional requirements stated within the Subcontract or local, state, and Federal regulations.

1.4 Personal Protection

A. The Subcontractor shall provide all on-site personnel with appropriate personal safety equipment and protective clothing, and shall ensure that all safety equipment and protective clothing are kept clean and well maintained. Hard hats shall be worn at all times from start to completion of the Subcontract unless a waiver is obtained in writing from the TSSC III Regional Program Manager. In addition, the following items shall be provided to and utilized by all personnel:

1. Work clothing as dictated by the weather.
2. Footwear appropriate for the job which may include steel-toe/shank work safety boots.
3. Additional items shall be provided contingent on the type of hazard encountered and the accepted industry standard for handling the specific type of hazard.

1.5 First Aid and Emergency Response Equipment

A. The Subcontractor shall provide for appropriate emergency equipment including an industrial-type first aid kit, a 2A:20B:C-rated fire extinguisher, spill control equipment, and supplies of sufficient quantity to handle potential accidents/incidents related to the nature of the work being accomplished.

A listing of emergency phone numbers and points of contact for fire, hospital, police, ambulance, and other appropriate emergency agencies shall be readily available.

1.6 Notification of Spills and Discharges

A. Subcontractor shall notify proper local authorities immediately in the event of a spill or discharge of potentially harmful or hazardous materials. Following notification of the local authorities, the Subcontractor shall notify the RE, WRPE, and Subcontract Administrator immediately. If the spill or discharge is reportable under local, state or Federal regulations, and/or human health or the environment is threatened, the Subcontractor shall notify the National Response Center at 1-800-424-8802 and the state's Department of Natural Resources where the spill or discharge occurred.

- B. Decontamination procedures may be required after clean-up to eliminate traces of the substance spill or reduce it to an acceptable level, as determined by the RE. Complete clean-up may require removal and disposal of contaminated soils. Personnel and equipment decontamination shall occur as specified in this section. All contaminated materials, including solvents, cloth, soil, and wood, that cannot be decontaminated must be properly containerized, labeled, and properly disposed of as soon as possible.
- C. Personnel and equipment that have come into contact with contaminated materials shall be decontaminated. A detergent that has been shown to be successful and effective for removing the hazardous material shall be used as the decontamination solution. Following washing, items shall be rinsed with clean water.

1.7 Project-Generated Wastes

A. The Subcontractor shall properly dispose of project-generated wastes that are or may have become contaminated (i.e., PCBs or asbestos). Such wastes include, but are not be limited to, disposable clothing, decontamination solvents, and decontamination wash waters.

1.8 Confined Space

A. Definition. A confined space shall be defined as a space, which, by design, has limited openings for entry and exit, unfavorable natural ventilation that could contain or produce dangerous air contaminants, and which is not intended for continuous employee occupancy. Confined spaces (as defined by OSHA) include, but are not limited to, storage tanks, compartments of ships, process vessels, pits, silos, vats, degreasers, reaction vessels, boilers, ventilation and exhaust ducts, sewers, tunnels, underground utility vaults, and pipelines.

B. In general, FAA confined spaces include vaults, lift stations, crawl spaces, small engine generator rooms, sewers, sumps, chillers, pits, boilers, tunnels, manholes, cooling towers, tanks, and watershed.

C. Applicable Documents. The following publications of the issue in effect on the date of the solicitation form a part of this specification and are applicable to the extent specified herein.

1. American National Standards Institute (ANSI)
2117.1 Safety Requirement for Confined Space
2. FAA Orders

SO [Region] 1053.2 Region Confined Space Program

SO [Region] 1050.4 Environment and Safety Program

3. OSHA Standards

29 CFR 1910.268 Telecommunications

29 CFR 1910.269 Electric Power Transmission, Generation, and Distribution

29 CFR 1910.46 Permit-Required Confined Spaces

29 CFR 1926.956 Underground Lines

- D. Requirements. Prior to any admittance into a confined space as defined in this Section, the Subcontractor shall perform a hazard evaluation. The hazard evaluation shall include testing the atmosphere for oxygen content, the presence of toxic gases, and the presence of explosive or flammable gases.

1.9 Underground Utility Damage Prevention

A. The Subcontractor is responsible for for complying with all OSHA regulations related to underground utility damage prevention as further specified in Section 01730. The Subcontractor should take all reasonable steps necessary to make certain that all active, abandoned, or unknown utilities are identified. Such steps are to include the utilization of an individual or firm acceptable to the Contractor and knowledgeable in Subsurface Utility Engineering (SUE) techniques, and competent to perform utility designation in conformance with the National Utility Locating Contractors Association (NULCA) Standard 101 for Professions Competence Standards for Locating Technicians or other written standard acceptable to the Contractor.

PART 2 PRODUCTS [Not Used]

PART 3 EXECUTION

3.1 Accident Reporting

A. In the event of an accident or incident, the Subcontractor shall immediately notify the Contractor in accordance with the Subcontractor's SSSP. Within 2 working days of any reportable accident/incident or as otherwise set out within the SSSP if an earlier time is specified, the Subcontractor shall complete and submit to the Contractor a written Accident Report. This report shall include the following information:

1. Name, telephone, and location of entity.
2. Project name and description.

3. Name and title of person reporting.
4. Location of accident/incident.
5. Brief summary of the accident/incident giving pertinent details including type of operation ongoing at the time of the accident/incident.
6. Cause of the accident/incident, if known.
7. Casualties (fatalities, disabling injuries).
8. Details of any existing hazard (chemical, contamination, work place safety).
9. Estimated property damage.
10. Nature of damage, effect on Subcontract schedule.
 11. Action taken by Subcontractor to ensure safety and security.
 12. Witness information/FAA personnel contacted.

3.2 Spills

A. In the event of a spill, the Subcontractor shall take immediate action to control and contain the spill. This will include, at a minimum, the following actions:

1. Keep unnecessary people away, isolate hazardous area, and deny entry.
2. Do not allow anyone to touch spilled material.
3. Stay upwind; keep out of low areas.
4. Keep combustibles away from the spilled material
5. Use water spray or foam to reduce vapor or dust generation, as needed
6. Take samples for analysis to determine that clean-up is adequate. Properly trained personnel should be involved in this action.
7. Take other appropriate actions as needed.
8. For solid spills, immediately remove and place contaminated materials into staging piles and cover; identify the pile as contaminated; test the material for treatability; dispose of the contaminate off-site at an approved disposal facility.
9. For liquid spills, immediately absorb with sand, clean fill, or other absorbent/spill mixture.

3.3 Permit-Required Confined-Space Program

A. Subcontractor shall be required to evaluate all potential confined spaces as contained in this project and shall submit a Permit Required Confined Space (PRCS) Program to the WRPE with a copy to the RE for review. The Contractor considers all confined spaces as permit required and therefore the Subcontractor shall

be required to submit a PRCS Program for review. The PRCS Program shall outline all potential confined spaces and shall be made in accordance with the applicable OSHA Standards. The PRCS Program shall be sent to the WRPE as a submittal with a copy to the RE and shall be in accordance with Section 01330, Submittals of the Subcontract.

- B. Permits are required to enter all FAA confined spaces. The Subcontractor shall prepare an application for permit that defines all conditions that must be met in order to ensure safety of personnel. Permits must be filled out, submitted, reviewed, and posted prior to any personnel entering the confined space. Subcontractor shall be required to permit all confined spaces. Prior to preparing the permit, the Subcontractor shall obtain permission to permit the space from the Contractor. The Contractor will coordinate all applications with the FAA Systems Management Office (SMO) Confined Space Coordinator. See applicable OSHA Standards for additional information. At no time will the Subcontractor enter an FAA-owned confined space without first obtaining permission from the FAA through the Contractor.
- C. Copies of all confined space permits shall be given to the RE and the SMO Confined Space Coordinator.
- D. Subcontractor shall be required to provide all test equipment, personal protective equipment and materials as required for the testing, permitting, monitoring and entering of confined spaces. All equipment must be calibrated within the last 6 months and shall be authorized for its intended use. Subcontractor shall submit test equipment most recent calibration date to RE and the SMO Confined Space Coordinator on all test equipment used for confined spaces as part of its PRCS.
- E. Subcontractor shall be required to provide one set of all test equipment, personnel protective equipment and materials required for the RE. All items shall be given to the RE at the beginning of the project. They will be returned when the project is complete. Subcontractor shall also be required to include its PRCS Program adequate protection for the RE. This shall include all ventilation, testing, monitoring, rescue equipment, ladders, and harnesses as required. All protection and testing for the RE shall be as required for all Subcontractor employees.
- F. All manholes and handholes greater than 3'-6" in depth shall be considered as permit-required confined spaces. Subcontractor shall adhere to all requirements as outlined herein.

3.4 Protection of Underground Utilities

- A. Preparation
 - 1. All existing underground utilities depicted on the drawings, (which include but are not limited to: power, control, and communications cables; telephone, water and sewer lines; and other utilities) are shown in their approximate locations only. Other utility lines may exist but not be depicted. It is the Subcontractor's responsibility to ensure that locations of all underground airport, FAA, public, and/or private utilities are established prior to work in the area.
 - 2. The Subcontractor shall at its expense satisfactorily repair and/or pay the cost of repair for all damages to underground utilities that result from the Subcontractor's or its lower tier subcontractors' operations during the period of the Subcontract. The Subcontractor is responsible for completing any required repair work to any underground utility that is

damaged by its workers, equipment, work, or subcontractors immediately, and with equal material approved by the RE.

3. If the Subcontractor damages a cable that has been previously located, then the Subcontractor shall be required to repair the cable and, at its expense, install either a pull box or manhole depending on the type and/or size of the cable. The RE shall determine whether a pull box or manhole is required. All costs related to the repair of the damaged cable shall be the responsibility of the Subcontractor.
4. Do not interrupt existing utilities serving facilities occupied by the Government or others except when permitted in writing by the RE and then only after acceptable temporary utility services have been provided. Provide a minimum 48-hours notice to the RE. Do not proceed with the interruption of any utility without written notice from the RE.
5. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
6. Protect subgrade and foundation soils against freezing temperatures or frost. Provide protective insulating materials as necessary. Protect subgrade and foundation soils from softening and damage by rain or water accumulation.
7. Provide erosion control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

B. Pre-excavation Requirements for Underground Utility Installations.

1. Prior to any excavation, the Subcontractor shall layout in the field the centerline of all proposed utilities. In addition the Subcontractor shall white line (by white spray paint or other means acceptable to the RE) the limits of construction including the area(s) to be excavated. The Subcontractor shall also identify the proposed placement of grounding rods and cathodic protection.
2. The Subcontractor shall identify the location of existing underground utilities on as-built drawings, including any unknown or abandoned utility found during construction. The Subcontractor shall ensure that all Airport officials, FAA technicians, other utility owners/operators, and any One-Call System performing utility designation/location services designate/mark existing utilities within the construction limits as well as the entire path of excavation, including five feet to either side of proposed utilities. The Subcontractor shall be solely responsible for notifying relevant utility owners/operators and One-Call System sufficiently in advance to ensure that delays to construction do not occur.
3. After completion of the utility designation described above, the Subcontractor shall hire a professional Subsurface Utility Engineering (SUE) or utility designation/locating company, acceptable to the RE, to designate and sweep the entire excavation area, including five feet to either side of proposed utilities, to confirm the locations of the marked utilities and identify and mark any additional unidentified utilities that may be within the limits of excavation.

4. The Subcontractor, in accordance with Section 01310, shall notify the RE of the preferred date and time for a pre-work meeting for all excavation work. The RE will coordinate the pre-work meeting with utility owners, local Airport Authority, FAA, the Subcontractor, and others as applicable to walk the excavation area and review applicable documentation. The subcontractor shall arrange to have its excavator and SUE (or designation firm) at the pre-work meeting. The Subcontractor shall provide a written excavation work plan acceptable to the RE that includes a contingency plan to restore to service all utilities including cables that may be placed out of service or damaged during performance of the work. The work plan at a minimum shall include:
 - a. A list of qualified subcontractors such as plumber, electrician, fiber optical cable splicer, and others as applicable for emergency repair purposes. Due to current FAA/TSA/Airport security requirements, the Subcontractor shall ensure that these subcontractors have passed any airport security and registration requirement so they can be presented immediately at the job site when emergency repair is warranted.
 - b. The Subcontractor shall coordinate with the RE to request an Emergency Procedures Plan from the Airport Authority or facility manager. This plan will outline special procedures during emergencies, disasters, accidents and injuries. The Subcontractor is to review the Emergency Procedures Plan with all its personnel prior to construction and every quarter thereafter.
 - c. The Subcontractor shall investigate and provide a list of sketches/drawings to all disconnects to electrical circuits, jet fuel lines, natural gas, and main water sources that feed the services in the project area and its vicinity. All disconnects and shut-off valves shall be noted with special notation and procedures if required by the utility owners/operators.
 - d. Name of the SUE or utility designation firm including training and experience of the technician who will be performing the utility designation as well as equipment that will be used for sweeping the area to be excavated.
 - e. Name of the excavator including training and experience of the equipment operator who will be doing the work.
5. Subcontractor shall expose all utilities that it will be crossing through non-destructive mechanical excavation methods such as vacuum excavation or similar mechanical method(s) approved by the RE ("potholing") or by hand digging. When a cable is located, the Subcontractor shall hand-excavate a trench five (5) feet each side of the exposed cable to verify that another cable is not adjacent to the exposed cable. All critical or high priority facilities shall be exposed by potholing or hand digging every 100 feet (or less if on a curve) if the Subcontractor is working on or parallel to a critical or high priority utility. All exposed utilities shall be properly supported and protected during construction.
6. Subcontractor shall continuously maintain utilities, facilities and/or systems that are or may be affected by work associated with the project. The Subcontractor shall provide the RE with written reports on any cable cuts in accordance with Subsection 3.2 C. below.

7. If the Subcontractor does not find an underground utility that was previously marked, the excavation shall be stopped, the RE shall be notified, and the Subcontractor shall contact the appropriate owner/operator of the utility or make contact with the appropriate owner/operator, using the One-Call System when warranted.
8. Every attempt shall be made to preserve the locate markings during excavation. Locate markings that are no longer visible shall be refreshed by calling the one-call system and/or the utility owners/operators for remarking.
9. All existing utilities that have been exposed during exploratory potholing or excavation must be supported to prevent stretching, kinking, or damage to the existing utility.

C. Excavation

1. Preserve, protect and maintain existing operable drains, sewers, and electrical ducts during grading, excavating and backfilling operations. Keep excavations dry. Locations indicated for existing utility facilities are approximate. Pipes or other manmade obstructions, in addition to those indicated, may be encountered. Movement of construction machinery and equipment over pipes and utilities during construction shall be at the Subcontractor's risk. Perform all work adjacent to non-Government utilities as indicated in accordance with procedures outlined by utility owner. Excavation made with power driven equipment is not permitted within five feet of any known existing utility. Start hand excavation on each side of the indicated obstruction and continue until the obstruction is uncovered. Support uncovered lines until approval for backfill is granted by the RE. No excavated material shall be disposed of in such a manner as to obstruct the flow of any stream, endanger a partly finished structure, impair the efficiency or appearance of any structure, or be detrimental to the completed work in any way.
2. An observer, acceptable to the RE, shall be present to assist the equipment operator when operating equipment around known underground facilities and utilities. Adhere to the following during excavation:
 - a. All mechanized excavation shall start with 6 to 10 inches excavation on the surface. The equipment operator shall immediately cease operation and notify the RE if utility warning tapes, sand, or bedding material is uncovered at any time during excavation.
 - b. All excavations within 5 feet of any pedestal, closure, riser guard, pole (with riser), meter, or other structure shall be performed by hand digging or other means such as vacuum excavating.
 - c. If the Subcontractor discovers damage, causes damage, or even contacts an existing underground utility, the owner/operator of that utility, and RE shall be notified immediately. The Subcontractor shall be responsible for making necessary repair and/or replacement in accordance with this section and the terms and conditions of the Subcontract.
 - d. If there is a critical or high priority utility line in the dig area, make arrangements for the utility owner/operator to be on the job site during the excavation. If the utility owner/operator refuses to be present, document this response by appending it to the request form.
 - e. Only those subcontractor employees qualified by training, licensed or experienced (as appropriate) shall be permitted to operate machinery, tools or equipment.

3. The Subcontractor and RE shall coordinate on a daily basis with the excavator and the excavating work crew regarding the work to be performed that day with an emphasis on the excavation work plan and anticipated utility crossings.

END OF SECTION

SECTION 01750

PROTECTION OF EXISTING CONDITIONS AND INSTALLED WORK

PART 1 GENERAL

1.2 Section Includes

- A. This section the basic care the Subcontractor shall use to prevent unnecessary damage to property in or near the Worksite during performance of the Work.

1.3 Related Sections

- A. General Conditions, Article 2, Subcontractor Responsibilities; Section 01110, Summary of Work; 01710, Construction Layout; and Section 01500, Temporary Facilities.

1.4 Protection of Existing Vegetation, Structures, Equipment, and Facilities

- A. The Subcontractor shall take all precautions necessary to protect the existing facilities, equipment, buildings, and vegetation during construction. Any areas damaged shall be repaired or replaced at no additional cost to owner. Repairs shall be approved by the RE. All repairs shall match the original finish and be made utilizing materials equal in quality to the existing.
- B. The Subcontractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed and which do not unreasonably interfere with the work required under this contract. The Subcontractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during Subcontract performance, or by the careless operation of equipment, or by workmen, the Subcontractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the RE.
- C. The Subcontractor shall protect from damage all existing improvements and utilities at or near the Worksite and
on adjacent property of a third party, the locations of which are made known to or should be known by the Subcontractor.
- D. The Subcontractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this Subcontract or failure to exercise reasonable care in performing the Work. If the Subcontractor fails or refuses to repair the damage promptly, the Contractor may have the necessary work performed and charge the cost to the Subcontractor

1.5 Property Protection

- A. The Subcontractor shall construct and maintain such temporary fences, gates and other facilities as shall be necessary for preservation of crops, control of livestock, and protection of property. Before cutting a fence, the Subcontractor shall take necessary precautions to prevent the straying of livestock and may prevent the loss of tension in or damage to adjacent portions of the fence. The Subcontractor shall immediately replace all fencing and gates that it cuts, removes, damages, or destroys with new materials to the original standard, with the exception that undamaged gates shall be reused.
- B. The Subcontractor shall comply with the request of the property owner relative to leaving gates open or closed.
- C. The Subcontractor shall use all necessary precautions to avoid the destruction of surveying markers such as section corners, witness trees, property corners, mining claim markers, bench markers, triangulation stations, and the like. If any such marker must be destroyed, the Subcontractor shall first notify the agency responsible for the marker, as well as the RE, and assume all responsibility for replacing markers.
- D. Unnecessary damage is that which can be avoided through efficient and careful performance of the work in a careful manner, taking into account the land rights which have been secured. If the Subcontractor damages any property, the Subcontractor shall at once notify the RE and owner or custodian and may make or arrange to make prompt and full restitution.
- E. Maps and specifications provided by Contractor may not give the location of all water supply, drainage, irrigation, and other underground facilities. Prior to entering a tract of land for subcontract purposes, the Subcontractor shall ascertain from the property owner or other reasonably available source the location of any irrigation system, domestic water system, source of water, and drainage system existing on the property, whether serving that property or other property. The Subcontractor shall report any findings to the RE. The Subcontractor shall avoid damaging or obstructing these facilities or polluting water supplies.
- F. The Subcontractor shall hold Contractor harmless from any and all suits, actions, and claims for damages, including environmental impairment, to property arising from any act or omission of the Subcontractor, its subcontractors, or any employee of the Subcontractor or subcontractors, in any way related to the Work or operations under this Subcontract.
- G. The Subcontractor shall indemnify and hold harmless the property owners or parties lawfully in possession against all claims or liabilities asserted by third parties, including all governmental agencies, resulting directly or indirectly from the Subcontractor's wrongful or negligent acts or omissions.
- H. The Subcontractor shall maintain all roads used by it, and upon completion of the job shall leave them in as good a condition as when first used. A road-grading machine, not a bulldozer, shall be used for maintenance and final grading. In no event shall the Subcontractor interfere with the property owner's use of roads existing prior to the Subcontractor's entry.

1.6 Management and Disposal of Hazardous Wastes

- A. The management and disposal of hazardous wastes and materials exposes the Subcontractor, Contractor, and FAA to short and long-term liabilities. In order to reduce these potential liabilities it is critical that the Subcontractor be fully aware of the hazards and regulatory requirements associated

with the hazardous materials involved in this project. Only qualified personnel shall be used in their handling and transportation. Before commencing work, the Contractor shall:

1. Perform an environmental assessment of the work required under the contract identifying tasks which involve the use, handling or transportation of hazardous materials or wastes.
2. Submit an environmental plan identifying and dealing with each specific task involving the wastes. The plan must be specific enough to demonstrate a thorough understanding of the environmental risks and the appropriate methodology for dealing with them. The plan shall also list the required permits and reference the relevant regulations which govern the activities involved in dealing with the materials or wastes.
3. Meet with representatives of the Contractor during the preconstruction conference to discuss and to develop a mutual understanding on implementation of the plan.
4. The Contractor may require other tasks to be added to the plan. If planned methodologies for dealing with the risks are deemed insufficient, the WRPE may require revision. Work involving hazardous materials or wastes shall not commence until adequate plans have been submitted and reviewed. Contractor's review of the Subcontractor's plan shall in no way relieve the Subcontractor of its liability for environmental law and regulatory compliance.

1.6 Protection of Installed Work

- A. Protect installed Work. Provide special protection where required in the Specifications and drawings or under manufacturer's warranty.
- B. Provide temporary and removable protection for installed Products. Control activities in immediate Work area to prevent damage.
- C. Protect finished floors and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- D. Prohibit traffic or storage upon completed surfaces. Obtain protection instructions from the manufacturer if traffic or activity is necessary.

PART 2 PRODUCTS [Not Used]

PART 3 EXECUTION [Not Used]

END OF SECTION

SECTION 02050

DEMOLITION AND REMOVALS

PART 1 - GENERAL

- 1.1** **Scope:** The procedures proposed for the accomplishment of demolition and removal work shall be submitted. The procedures shall provide safe conduct of the work, careful removal and disposition of materials specified to be salvaged, protection of property which is to remain undisturbed, coordination with other work in progress, and timely disconnection of utility services. The procedures shall include a detailed description of the methods and equipment to be used for each operation and the sequence of operations.

PART 2 - PRODUCTS **[NOT USED]**

PART 3 - EXECUTION

- 3.1** **General:** Demolition and removal work shall be in compliance with approved demolition procedures and applicable requirements of the applicable agencies having jurisdiction.
- 3.2** **Protection Of Existing Work:** Before beginning any cutting or demolition work, the Subcontractor shall carefully survey the existing work and examine the drawings and specifications to determine the extent of the work. The Subcontractor shall take all necessary precautions to ensure against damage to existing work that will remain in place, be reused, or remain the property of the FAA, and any damage to such work shall be repaired or replaced so as to be equal to or better than the pre-construction condition as approved by the COR at no additional cost to the Government. The Subcontractor shall carefully coordinate the work of this section with all other work and construct and maintain any necessary protective structures.
- A.** **Dust Control:** Any dust resulting from removal shall be controlled to prevent the spread of dust and to avoid creation of a nuisance in the surrounding area. Existing communications and electronics equipment is acutely sensitive to dust and must be safeguarded. Use of water or other materials shall not be permitted when it will result in, or create, hazardous or objectionable conditions such as ice, flooding or pollution.
- B.** **Protection Of Buildings From The Weather:** The interior of all shelters and other structures shall be protected from the weather at all times. Material and equipment shall be protected from the weather as recommended by the manufacturer.
- C.** **Burning:** Burning at the project sites for the disposal of refuse and debris will not be permitted.
- D.** **Use of Explosives:** The use of explosives and pyrotechnics for demolition is not permitted.

3.3 **Disposition Of Equipment And Materials:**

- A. **Title To Materials:** All fixtures (installed property) removed during construction shall be designated as either “salvage”, “unsalvageable”, or “rubble” by the COR.
- B. **Designation Of Government Salvage, Unsalvageable Property Or Rubble:** All fixtures desired for salvage shall be designated as “Salvage” by the Subcontract Administrator or designated representative. **Items designated as “Salvage” are indicated on the drawings.** All remaining materials and equipment not designated as salvage are “Unsalvageable Material” or “Rubble”.
- C. **Disposition Of Unsalvageable Material:** The Subcontractor shall remove all unsalvageable materials and rubble from the work areas. The unsalvageable materials removed from the work areas shall be disposed of by the Subcontractor outside of the limits of the site or the leased areas at the Subcontractor’s responsibility and expense in accordance with all governmental agencies having jurisdiction.

3.4 **Cutting And Patching:**

- A. **Cutting and Drilling:** The Subcontractor shall be held responsible at all times for contents and structural conditions of the premises and building within the work area, and shall do or supervise all cutting, drilling, reinforcing, and patching required for work of all the Subcontractors and trades included in work of this Subcontract, and to do so in a timely manner to avoid any hindrance to work of other trades. Cutting done by anyone other than the Subcontractor shall be approved by the RE. In such cases the Subcontractor shall supervise such cutting and shall not be relieved of responsibility for error or damage to related or adjoining work. Cutting and patching of specific items may be separately described under the various divisions of these specifications that do not, in any way, diminish the Subcontractor's primary responsibility for all cutting and drilling.
- B. **Patching:** Any cutting of finished surfaces or damage thereto occurring in the course of the work shall be patched and/or repaired to match the existing work in color, texture, alignment, and every other respect to the satisfaction of the RE. Materials shall be equal to or better than the pre-construction condition.
- C. **Repair of Masonry Walls:** Openings in masonry walls shall be closed with 16 gauge galvanized steel sheet securely attached at the midpoint of the wall thickness and firestopped on both sides of the steel sheet with not less than 1/2-inch thick layer of non-sagging silicone elastomer to fully cover the opening.

3.5 **Quality Control:** The Subcontractor shall establish and maintain quality control for the demolition and removal work to assure compliance with subcontract requirements. Records shall be maintained for all demolition and removal operations but not limited to the following:

- A. **Procedures:** Safety measures, protection of property, coordination of work, and dust control.
- B. **Salvaging:** Removal and preparation of materials for storage.
- C. **Demolition:** Extent of demolition and disposition of materials.

3.6 **Clean-Up:** The Subcontractor shall remove debris and rubbish from the site daily. Do not allow debris to accumulate in building nor on-site. Remove debris and excess materials.

- A. **Debris Control:** The Subcontractor shall remove and transport debris in a manner as to prevent spillage on streets or adjacent areas. The Subcontractor shall immediately clean up any spillage or tracking of soil or debris onto pavement outside the work area.

- B.** **Regulations:** The Subcontractor shall comply with all regulations regarding hauling and disposal of removed materials. The legal disposal of removed materials and debris is the Subcontractor's responsibility.

END OF SECTION

SECTION 08731

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Furnish labor, materials, equipment and incidentals necessary to install weatherstripping and related items.
- B. Furnish and install a threshold at each exterior door. Weatherstrip jambs, heads and meeting rails of exterior doors, not otherwise factory weatherstripped.
- C. Aluminum doors and industrial roll up doors shall be weatherstripped by the manufacturer.

1.2 RELATED WORK COVERED ELSEWHERE

Metal Doors and Frames

1.3 QUALITY ASSURANCE

SUGGESTED MANUFACTURERS: Products as produced by the following manufacturers shall be acceptable, if each complies with the size, style and design specified:

- A. Reese
- B. Pemko
- C. Zero
- D. National Guard, or equal

1.4 SUBMITTALS

Submittals shall be in accordance with Section 01300, SUBMITTALS and shall include:

- A. Product Data Sheets.
- B. Weatherstripping Schedule.
- C. Submit a six inch length of each type of weatherstripping.

1.5 STANDARDS AND REFERENCES

The applicable provision of the following standards and reference shall apply to this section as if written herein in its entirety:

Architectural Aluminum Manufacturer's Association (AAMA):
Specification No. 809-1.

1.6 DELIVERY AND STORAGE

Deliver products to the site in protective cartons and store packaged until installation.

1.7 JOB CONDITIONS

Coordinate weatherstripping with the door manufacturer. Where hardware requires special rabbets or recesses in metal doors, provide template to door manufacturer. Machine wood doors as necessary to fit recessed weatherstripping.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. BRONZE, SPRING: Alloy 85015 or 90-10 commercial bronze, hardener A-4.
- B. BRONZE, CAST: Alloy 385, mill finish.
- C. VINYL: High quality, virgin vinyl conforming to CS-230. Cold weather vinyl shall remain flexible to 30 degrees F.
- D. ALUMINUM: 6063-T5 alloy; finish as specified.
- E. FASTENERS: Corrosive-resistant screws, expansion bolts and other appropriate fasteners. Fasteners used with copper and bronze shall be non-ferrous.
- F. ABRASIVE SURFACE: Abrasive, non-skid surfaces on thresholds shall be a stainless steel abrasive surface equal to Pemko "Pemkote".
- G. BEDDING COMPOUNDS: Gun grade, non drying compound complying with AAMA Specification 809.1, Pecora "BR.96", Tremco "Curtain Wall Sealant; or equal.

2.2 MANUFACTURED PRODUCTS

- A. Weatherstripping for exterior hollow metal doors at heads and jambs shall be one of the following:
 - 1. Reese No. 350, Bronze and DS114-DUR
 - 2. Zero No. 19W, Bronze and No. 270, Bronze
 - 3. Pemko No. 74B, Bronze and No. 306AU-D.
- B. Astragals for meeting stiles of pairs of metal doors shall be Reese No. 275D or approved equal.
- C. Sill weatherstripping at exterior door shall be Reese No. DB-595-D, or equal.
- D. Thresholds for exterior doors shall be heavy duty aluminum extension of the type shown on the drawings. Color of aluminum shall be dark bronze anodized or bronze.
- E. Sound Seals shall be as follows:

1. Head at joint - Reese No. 599-DUR, or equal.
 2. Door bottom - Reese No. 521-DUR, or equal.
- F. Smoke gasket shall be installed where indicated and shall be Reese 897B polyprene, or equal.

- G. Raincaps over each exterior hollow metal door shall be Reese R201-D or approved equal.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. WEATHERSTRIPPINGS:
 - 1. Weatherstrippings shall form a weathertight seal at every point when the opening is closed. Weatherstrippings shall adjust themselves to the swelling, shrinkage and warping of doors and frames, without impairing efficiency or the best operation of the doors.
 - 2. Install weatherstrippings so that doors operate freely, close tightly and provide for normal expansion of the doors. Machine woodwork, as necessary, without injurious cutting. Anchor bronze weatherstrippings to metal with fasteners spaced two (2") inches on center. At wood doors, nail bronze weatherstrippings at one (1") inch centers.
- B. GASKETS: Gaskets on fire doors shall conform to U.L. requirements, rated to comply with door fire resistance classification.
- C. THRESHOLDS AND SWEEPS:
 - 1. Set thresholds in a solid bed of asphaltic mastic and fasten with No. 10 screws in expansion shields set in concrete at 14" inch o.c. spacing.
 - 2. Install door bottoms or sweeps on doors which swing into the building so that the sweep clears the floor for the entire swing of the door.

3.2 SCHEDULES

- A. Subcontractor shall submit a schedule which identifies each location where threshold, weatherstripping, sound seals or smoke gaskets are to be applied, along with proposed product for each location. Schedule shall have a catalog product data sheet for each product to be used.
- B. Subcontractor shall comply with the following requirement:
 - 1. Thresholds: - Install a threshold at every exterior door and as otherwise indicated.
 - 2. Weatherstripping: - Install weatherstripping at heads and jambs of every exterior door.
 - 3. Sound Seals - Install sound seals at head, jambs and door bottoms at mechanical rooms, engine generator room and elevator equipment rooms as or otherwise indicated.
 - 4. Smoke Gasket: - Install smoke gaskets at heads and jambs for fire rated doors, stair doors, doors at chases and as indicated on drawings.
 - 5. Door Sills: - Install door sills at each exterior door.

6. Raincap: - Install a raincap at each exterior door which is not under a canopy or other cover.

END OF SECTION

09901 PAINTING

PART 1.00 GENERAL

1.01 WORK INCLUDED:

- A. Furnish labor, materials, equipment, and incidentals necessary to paint surfaces attached to or related to buildings and ancillary components.
- B. Every surface shall receive no less than three (3) coats of paint and have a dry film thickness not less than five (5) mils., except non-ferrous metals or factory finished surfaces, or as otherwise specifically scheduled not to be painted. Where painting type is not specifically listed in the schedule, provide a three (3) coat paint finish using paint selected by the Resident Engineer.
- C. Paint mechanical and electrical equipment, such as air handlers, exhaust fans or electrical panelboards. Paint surfaces of mechanical and electrical apparatus in areas not concealed by suspended ceilings or chases.
- D. Paint mechanical equipment exposed to the outside of the building and not otherwise factory finished, including galvanized or aluminized surfaces exposed to outside of building.
- E. Except in mechanical rooms, paint electrical panelboards, regardless of factory finish, to match surrounding wall surfaces. Paint registers, grilles, louvers, conduit, pipe and pipe coverings exposed to view in any area other than mechanical rooms. Paint exposed ferrous piping in all exposed locations, including mechanical room.
- F. Paint galvanized steel flashings, facias, vent stacks, housings and other ferrous sheet metals at roofs or above roof surfaces. Do not paint aluminum, stainless steel or copper flashings, or labels on U.L. rated doors and frames.
- G. Surfaces which do not require painting are as follows: Copper, aluminum except as otherwise noted, stainless steel, chrome plated metal, acoustical tile, plastic finished surfaces, factory finished metal siding and related trim and accessories, finished floors, ceramic tile, FRP wall panels and laminated plastic surfaces.

1.02 RELATED WORK COVERED ELSEWHERE:

This section provides the protective coating specification for all other sections. Carefully review drawings and the remainder of the specifications to ascertain the full extent of painting and finishing required.

1.03 QUALITY ASSURANCE: [Not Used]

1.04 SUBMITTALS:

Submittals shall be in accordance with Section 01300, SUBMITTALS and shall include:

- A. Schedule showing each paint surface correlated with the paint system to be used on each.
- B. Product data sheets for each paint product.
- C. Color charts for each paint type.
- D. Certification of paint grade and quality.
- E. Provide samples of each color and sheen, prepared on 12" x 12" white cardboard panels. Identify each color on back with brand, name of color and mixing formula.

1.05 REFERENCES AND STANDARDS:

The applicable provisions of the following references and standards shall apply to this section as if written herein in their entirety:

American Society for Testing and materials (ASTM) Publications.

ASTM D 234	"Raw Linseed Oil"
ASTM D 360	"Shellac Varnishes"

1.06 DELIVERY, HANDLING AND STORAGE:

- A. Deliver materials in the original containers with labels intact and seals unbroken. With the exception of ready-mixed materials, perform all mixing at plant.

- B. Storage space will be designated for painting materials and tools. Protect the entire floor surface from damage or spilled paint. Keep paint containers covered at all times. Provide adequate safeguards to prevent fires and maintain storage room in clean condition.

- C. Upon leaving the storage area, clean spilled paint and remove empty containers and construction debris. Restore room to finish condition.

1.07 JOB CONDITIONS:

- A. Contracting Officer's approval is required prior to beginning any painting.

- B. Contractor shall be responsible to coordinate factory prime coats and field painting. When shop applied primer is not compatible with the finish system specified herein, Contractor shall notify the COR and receive instructions to rectify the situation.

- C. Interior painting shall not begin until masonry surfaces are thoroughly cured and dry. The temperatures of spaces in the building to be painted shall be maintained above 50 degrees F and kept dry.

- D. Exterior painting shall not be performed in rainy, damp or frosty weather, or until surface is thoroughly dry.

- E. Areas to be painted shall be broom cleaned. Unnecessary materials, tools, debris and equipment shall be removed.

F. A representative area of each surface may be required to be finished on the project for approval. Such approved surfaces will be the standard for like surfaces through the job.

PART 2.00 PRODUCTS

2.01 MATERIALS:

A. GENERAL:

Materials shall be new, fresh and mixed and applied in strict accordance with the manufacturer's printed instructions. All paint materials and products shall be as manufactured by Sherwin Williams Aquafleck or approved equal. Refer to Interior Color Schedule on contract drawings.

B. LINSEED OIL, RAW:

Complying with ASTM A-234.

C. LINSEED OIL, BOILED:

Complying with ASTM D-260.

D. TURPENTINE:

Complying with ASTM D-13.

E. MINERAL SPIRITS:

Complying with ASTM 235.

F. SHELLAC:

Light body white shellac conforming to ASTM D-360

G. TINTING COLORS:

Standard colors by the same manufacturer as the paint.

H. CLEANING SOLVENT:

Complying with ASTM D362

I. SPACKLE COMPOUND:

Architectural grade oil based vinyl paste spackling compound; DAP Inc or approved equal.

J. ZINC-RICH COATING:

Formulated compound that provides a 3 mil thickness is one coat containing not less than 95 percent zinc.

2.02 COLORS AND TINTS:

A. Selected colors shall be considered final for hue, but the right is reserved to vary the value and intensity of any color before application of the final coat. Therefore, no final work shall be done until the base coats have been inspected and approved in writing. Base coats shall be the same hue as finish colors, but each coat shall be different in value. Generally, the final coat shall match the color selected, the next-to-last coat shall be lighted by adding 50 percent white. Additional base coats shall be applied untinted.

B. SCHEDULE:

Colors for surfaces required to be painted are scheduled on the drawings. If a selection for any such surface has been omitted, request these selections insufficient time to permit review by the Contracting Officer and revision of the selection when necessary.

C. SELECTION AND MIXING:

Selected colors are from the Sherwin Williams or Aquafleck standard color system. If another manufacturer's paint is approved for use, these colors shall be matched exactly. Colors, regardless of quantity, shall be mixed by the manufacturer, using equipment and methods that provide scientifically accurate proportioning of pigments. No colors shall be mixed on the job.

2.03 SPECIAL COATINGS:

A. EPOXY COATINGS: (EP-1)

Pittsburgh "Pitts-Glaze," Glidden "Glid-Guard", Sherwin Williams "Tile Clad II" or approved equal, mixed and applied in accordance with the manufacturer's recommendations. Install two (2) heavy brush coats of block filler to surfaces and allow to dry. Epoxy coating shall dry to a high gloss finish.

B. HIGH PERFORMANCE COATING [OPTIONAL]:

Single-component polyester or polyester aliphatic-polyurethane resin coating system; Mameco "Sanitile", or approved equal, as follows:

1. Concrete masonry - Sanitile ILT (SP), 3-coat system applied to 25m DFT.

1 layer smoothing ply - 400 sq.ft./gel

1 layer basecoat - 300 sq.ft./gel

1 layer finish - 300 sq.ft./gel

2. Drywall surface - Sanitile DW, 3-coat system applied to 8 mil. DFT.

1 layer base coat - 300 sq.ft./gel

(brush or roller)

2 layers finish out - 300 sq.ft./gel

C. EPOXY FLOOR COATING: (EFC-1)

1. Concrete surfaces shall be prepared to receive coating by first removing oil, grease and other contaminants, then etching the slab by light sand blasting in accordance with SSPC-SP7, or by acid etching in accordance with manufacturer's written instructions.

2. The epoxy coating shall be applied in three coats; a primer followed by two equal uniform top coats. Final coat shall have a fine textured sand which provides a grit.

3. The epoxy coating shall be Sherwin Williams "Armor Seal 1000 HS" or approved equal.

D. ALIPHATIC POLYURETHANE COATING:

Provide the following coating system over exterior ferrous-metal surfaces in a severe environment; semi-gloss finish; Tnemec, or approved equal as follows:

1. PRIMER: Inorganic zinc primer applied at spreading rate recommended by manufacturer. Series 90-96 Tnemec-Zinc.

2. INTERMEDIATE COAT: Epoxy applied at spreading rate recommended by manufacturer to achieve a dry film thickness of 2.0 to 3.5 mils; N27 Typoxy or 66/N69 Hi-Build Epoxoline.
3. TOPCOAT: Aliphatic polyurethane enamel applied at spreading rate recommended by manufacturer to achieve a dry film thickness of 2.0 to 5.0 mils; Series 75 Endura-Shield.

PART 3.00 EXECUTION

3.01 PREPARATION - GENERAL:

- A. Properly prepare surfaces receiving finish, as scheduled or specified. Remove loose accumulations of dust or dirt with an air blower, or vacuum, or by sweeping with a brush. Where necessary, wash with detergent followed by rinsing with clean water.
- B. Do not apply paint or transparent finishes under conditions of weather or temperature unsuitable for executing a first-class job. When surfaces are unsuitable for the application of acceptable finishes notify Contracting Officer in sufficient time for conditions to be corrected. Start of work implies acceptance of these surfaces and later claims of defects in such work shall in no way change the requirements of this specification.
- C. Seal knots, pitch streaks, and sap streaks with Western Pine Association Formula WP578 for exterior work and shellac for interior work. After application of first paint coat, fill holes, dents, scratches, etc., flush with surface, using paste wood filler. After filler is dry, sandpaper surface smooth.
- D. Remove rust and scale from metal surfaces with a wire brush, scraper and emery cloth down to the new metal and treat with rust inhibitor. Retouch shop paint where marred and paint field welds, bolts, etc., with same primer. Fill dents, depressions and flush head countersunk screws flush with body putty.
- E. Wipe surfaces galvanized steel with cleaning solvent to remove oil and grease. Etch with solution of copper sulphate crystals or etching solution.

3.02 SPECIAL PREPARATION:

A. P-1 WOOD:

Surfaces shall be dry. Sand smooth and remove saw cuts or rasp marks. Sand with the grain, not against the grain. Spot prime knots and sap streaks. Putty nail holes and cracks after primer is applied.

B. P-2 GALVANIZED IRON:

Clean thoroughly and remove grease, residue and corrosion with solvent wash.

C. P-3 STEEL, SOLVENT CLEANING SSPC-SP 1-63:

Remove oil, grease, dirt, soil or contaminants by cleaning with solvent or steam.

D. P-4 STEEL, HAND TOOL CLEANING SSPC-SP 2-63:

Remove loose rust, loose mill scale and loose paint to firm surface by hand chipping, scraping, sanding or wire brushing.

E. P-5 STEEL POWER TOOL CLEANING SSPC-SP 3:

Remove loose rust, loose mill scale and loose paint by power tool chipping, descaling, sanding, wire brushing and grinding.

F. P-7 BRUSH OFF BLAST CLEANING SSPC-SP 7:

Blast clean loose material only.

G. P-8 CONCRETE MASONRY UNITS AT ESU:

Remove dirt, loose or excess mortar and dry thoroughly. Patch interior defects as necessary with latex concrete mix.

H. P-9 CONCRETE:

Patch where necessary with latex concrete. Remove loose dirt and dust. Apply concrete sealer or masonry conditioner. Concrete must be cured for a period of thirty (30) days at a temperature of 75 degrees F or above. Curing compounds and sealers must be compatible with the paint applied to the surface.

I. P-10 DRYWALL:

Drywall surfaces shall be clean and dry. Joint treatment shall be thoroughly dry. Texture shall be applied and defects repaired. Cracks or voids shall be filled with spackle compound to match adjacent surfaces. Prime metal casing and corner heads before applying water-based paints. Prime walls as recommended by manufacturer which receive Crafton paint.

J. P-11 WOOD VARNISH:

Surfaces to be clean and dry. Fill nail holes and other blemishes after staining with filler tinted to match wood or stain color.

3.03 INSTALLATION:

A. WOOD DOORS:

Immediately after delivery, give top and bottom edges of wood doors one (1) heavy coat of spar varnish. After doors have been trimmed and fitted, finish edges and recoat tops and bottoms with varnish. Sand wood doors with No. 3/0 or No. 5/0 sandpaper and clean before applying sealer. Sand and clean between each coat of finish.

B. MILLWORK:

Back Prime or seal exterior woodwork and exterior wood frames, trim and plywood. Prime or seal sides and backs of millwork that will be concealed once installed.

C. BRUSH APPLICATION:

Use only top quality hog hair or synthetic bristle brushes. Apply paint to form a uniform film of a thickness which is consistent with the specified coverage. Use sufficient cross brushing to fill surface irregularities and complete coverage. Use care when painting corners and other restricted places so that a uniform application is obtained. Final brushing strokes shall be made in the same direction and toward the previously applied paint. Brush the final coats of enamel paints only enough to spread the coating evenly and avoid excessive thickness.

D. SPRAY APPLICATION:

When paint is applied by spray, the air gun used shall be adjustable to regulate the air and paint mixture. The equipment shall have a suitable water trap to remove moisture present in the compressed air. Paint pots shall be equipped with a hand agitator to keep the paint mixed well. The width of the spray shall be not less than twelve (12") inches, nor more than eighteen (18") inches. The pressure shall be suitable for type of paint used.

E. PAINTING OVER SHOP COAT:

Where an item to be painted has a shop coat of paint, primer may be omitted. Touch up marred surfaces of shop coat before applying finish coats.

F. BLOCK FILLER:

Apply block filler for concrete masonry in two (2) heavy coats, at the rate of 75 square feet per gallon. Use a brush followed by roller to force the material into the pores of the block.

3.04 WORKMANSHIP:

A. Painting shall be accomplished by skilled mechanics in a workmanlike manner. The Contractor shall be responsible for the quality of his work and shall not begin any work until the surfaces have been properly prepared.

B. Do not finish any surface which has hammer marks, cuts, splits, exposed nails, nail ridges or improper workmanship, loose joints or improper jointing that normal finishing procedures will not conceal. Inspect surfaces and report defects which should be corrected before painting to the Contractor.

C. Apply coats evenly and consistently. They shall be free from sags, runs, crawls, or other defects. Brush coats so that only a minimum amount of brush marks show. Allow each coat to dry thoroughly before applying next coat. Lightly sand enamels and varnishes with No. 000 sandpaper between successive coats. Applying paints without thinning or adulterating.

D. Apply paint with a brush only, except that large areas may be applied by rollers. Wood finishes other than those scheduled to be painted, may be sprayed. Metal deck and structural system may be brushed or sprayed. No other spray painting shall be allowed unless specified or approved in writing, or so noted elsewhere.

3.05 FIELD QUALITY CONTROL:

Each coat shall be applied to the manufacturer's recommended spreading rate. If the coverage is not adequate, or when requested by the Contracting Officer, provide testing apparatus necessary to determine the paint film thickness. Provide wet film gages and test each layer while paint is wet. Provide additional coats of paint until the manufacturer's specified film thickness is achieved or the finish coat completely covers previous coats.

3.06 CLEAN AND ADJUST:

Thoroughly clean equipment at the end of each work day. Upon completion of this work, remove paint from the finished or prefinished surfaces such as transparent finish wood, ceiling grid, etc., and from unfinished surfaces such as tile, glass, aluminum, hardware, etc., and from unfinished surfaces such as tile, glass, aluminum, hardware, etc. Remove rubbish and accumulated materials connected with this work from the premises.

3.07 SCHEDULES:

Painting shall conform to the following schedule:

(see following page)

PAINT SCHEDULE

PREP NO.	SURFACE TYPE	SURFACE DESCRIPTION	APPLICATION	VEHICLE TYPE	SHEEN	COAT NO.	PRODUCT DESCRIPTION
P9 or P7	Concrete INTERIOR	Inside surface of precast concrete walls, panels	Roller or Spray	Epoxy	Gloss	1 2 3 4	Block Filler, Heavy Duty Block Filler, Heavy Duty Epoxy Primer Epoxy Enamel
P3 P4	Metal, ferrous; INTERIOR	Exposed steel piping, pumps, motors, and machinery inside mechanical room; Hangers	Brush or Spray	Alkyd	Gloss	1 2 3	Metal Primer Gloss Enamel Gloss Enamel
-	Pipe insulation INTERIOR	Pipe insulation exposed to view within any space	Brush	Alkyd	Semi-Gloss	1 2 3	Latex, well primed Alkyd enamel, semi-gloss Alkyd enamel, semi-gloss
P7	Concrete INTERIOR	Concrete slabs at Engine & Generator Rooms, UPS, & Battery Room	Roller	Epoxy	Gloss	1 2 3	Primer Top Coat Top Coat/Grit
P3 P4 P5	Metal, ferrous; EXTERIOR Shop primed	Exposed structural steel, Columns, Misc. metals, (See Special Coatings 2.03 for Aliphatic Polyurethane Coating on bracing)	Brush	Alkyd	Semi-Gloss	1 2 3	Touch-up shop coat Ext. Metal Enamel Ext. Metal Enamel
P2	Metal, Galvanized	Fascias, Gravel guards, handrails, posts, columns, and	Brush	Alkyd	Semi-Gloss	1	Gal. Metal Primer

P3	EXTERIOR	misc. galvanized steel.				2 3	Ext. Metal Enamel Ext. Metal Enamel
P3	Metal, ferrous; INTERIOR	Exposed steel structure, Steel joists & metal deck Uninsulated piping	Brush or Spray	Alkyd	Semi- Gloss	1 2 3	Metal Primer Enamel, semi-gloss Enamel, semi-gloss
P3	Metal, ferrous; INTERIOR	Hollow metal doors and frames, electrical panels, steel handrails & misc. steel grilles & louvers	Brush	Alkyd	Semi- Gloss	1 2 3	Metal Primer (or touch up) Enamel, semi-gloss Enamel, semi-gloss
P3	Metal, galvanized; INTERIOR	Misc. galvanized steel	Brush	Alkyd	Semi- Gloss	1 2 3	Gal. Metal Primer Enamel, semi-gloss Enamel, semi-gloss
P10	Gypsum, Drywall INTERIOR	Gypsum wallboard surfaces where scheduled	Roller or Spray	Latex Emulsion	Satin	1 2 3	Latex wall primer Latex, satin Latex, satin
P8	Masonry INTERIOR	CMU, Normal Finish	Roller or Brush	Alkyd	Semi- Gloss	1 2 3 4	Block Filler, Heavy Duty Block Filler, Heavy Duty Alkyd D Enamel Alkyd D Enamel
P1	Wood INTERIOR	Trim and misc. wood, plywood shelves noted to be painted	Brush	Alkyd	Semi- Gloss	1 2 3	Wood Primer Alkyd Enamel, Semi-gloss Alkyd Enamel, Semi-gloss
		Doors and wood trim,					

P1	Wood	Millwork, unless scheduled otherwise, Transparent Stain	Brush or Spray	Varnish	Satin	1	Paste Wood Filler
P11	INTERIOR					2	Penetrating Wood Stain
						3	Clear Varnish
						4	Clear Varnish

END OF SECTION

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